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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,440	10/21/2003	Warren A. Atkey	030048080US1	8085

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PERKINS COIE LLP
PATENT-SEA
P.O. BOX 1247
SEATTLE, WA 98111-1247

EXAMINER

NGUYEN, TRINH T

ART UNIT	PAPER NUMBER
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3644

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/691,440

Applicant(s)

ATKEY ET AL

Examiner

Trinh T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 19-22 and 27-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 23-26 and 37-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/21/03 & 7/22/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-18, 23-26, and 37-39 in the reply filed on 11/04/04 is acknowledged.

2. Claims 19-22, and 27-36 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-8, 12-14, 16-18, and 23-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Albero et al. (US 6,704,625).

For claim 1, Albero et al. discloses an aircraft comprising: a fuselage having a passenger cabin; a jet engine configured to provide propulsive thrust to the aircraft; an electric generator operably coupled to the jet engine and configured to receive shaft power from the jet engine; and an environmental control system including at least one compressor motor configured to receive electric power from the electric generator to

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provide outside air to the passenger cabin in the absence of bleed air from the jet engine (see lines 32-67 of col. 2, lines 1-18 of col. 3).

For claim 2, Albero et al. further discloses 2. a wing extending outwardly from the fuselage; and an electrothermal wing ice protection system configured to at least reduce the formation of ice on a portion of the wing in the absence of bleed air from the jet engine, the electrothermal wing ice protection system configured to receive electric power from the electric generator (see lines 32-67 of col. 2, lines 1-18 of col. 3).

For claim 3, Albero et al. further discloses a wing extending outwardly from the fuselage; and an electromechanical wing ice protection system configured to at least reduce the formation of ice on a portion of the wing in the absence of bleed air from the jet engine, the electromechanical wing ice protection system configured to receive electric power from the electric generator (see lines 32-67 of col. 2, lines 1-18 of col. 3).

For claim 4, Albero et al. further discloses a wing extending outwardly from the fuselage; and a wing ice protection system configured to at least reduce the formation of ice on a portion of the wing in the absence of bleed air from the jet engine, the wing ice protection system configured electric generator in a cycled manner (see lines 32-67 of col. 2, lines 1-18 of col. 3).

For claim 5, Albero et al. further discloses a hydraulically actuated landing gear extendable downwardly from the aircraft; a hydraulic pump configured to provide hydraulic power to the landing gear; and an electric motor operably coupled to the hydraulic pump and configured to receive electric power from the electric generator to

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drive the hydraulic pump in the absence of pneumatic power from the jet engine (see lines 38-55 of col. 3).

For claim 6, Alberio et al. further discloses the electric generator is a starter/generator operable as a synchronous motor to start the jet engine in the absence of pneumatic power (see lines 32-67 of col. 2).

For claim 7, Alberio et al. further discloses the electric generator is a starter/generator operable as a synchronous motor to start the jet engine, and wherein the jet engine is configured to be started by the starter/generator in the absence of a pneumatically operable starter turbine (see lines 32-67 of col. 2).

For claim 8, Alberio et al. further discloses the electric generator operably coupled to the jet engine is a first electric generator, and wherein the aircraft further comprises: an auxiliary power unit; and a second electric generator operably coupled to the auxiliary power unit and configured to receive shaft power from the auxiliary power unit, wherein the at least one compressor motor of the environmental control system is configured to receive electric power from the second electric generator to provide outside air to the passenger cabin in the absence of compressed air from the auxiliary power unit (see lines 55-65 of col. 2).

For claim 12, Alberio et al. further discloses an aircraft comprising: a fuselage; a wing extending outwardly from the fuselage; a jet engine configured to provide propulsive thrust to the aircraft; an electric generator operably coupled to the jet engine and configured to receive shaft power from the engine; an environmental control system configured to provide conditioned air to at least a portion of the fuselage in the absence

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of bleed air from the jet engine, the environmental control system including at least one fan motor configured to receive electric power from the electric generator; and a wing ice protection system configured to at least reduce the formation of ice on a portion of the wing, the wing ice protection system configured to receive electric power from the electric generator in the absence of bleed air from the jet engine.

For claim 13, Alberio et al. further discloses the electric generator operably coupled to the jet engine is a first electric generator, and wherein the aircraft further comprises: an auxiliary power unit; and a second electric generator operably coupled to the auxiliary power unit and configured to receive shaft power from the auxiliary power unit, wherein the wing ice protection system is configured to receive electric power from the second electric generator in the absence of compressed air from the auxiliary power unit.

For claim 14, Alberio et al. further discloses the wing ice protection system is an electrothermal system including at least one heating element positioned at least proximate to an interior portion of the wing, and wherein the heating element can be energized with electric power from the electric generator to warm the portion of the wing to at least reduce the formation of ice on the portion of the wing.

For claim 16, Alberio et al. further discloses a hydraulically actuated landing gear system configured aircraft on the ground, the landing gear system including a hydraulic pump driven by an electric motor in the absence of bleed air from the jet engine, wherein the electric motor is configured to receive electric power from the electric generator.

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For claim 17, Albero et al. further discloses the aircraft is a commercial passenger carrier and the fuselage includes a passenger cabin and a cargo hold.

For claim 18, Albero et al. further discloses an aircraft comprising: a fuselage; a jet engine configured to provide propulsive thrust to the aircraft; an electric generator operably coupled to the jet engine and configured to receive shaft power from the engine; an environmental control system configured to provide conditioned air to at least a portion of the fuselage in the absence of bleed air from the jet engine, the environmental control system including at least one fan motor configured to receive electric power from the electric generator; and a hydraulically actuated landing gear configured to movably support at least a portion of the aircraft on the ground, the landing gear receiving hydraulic power from a hydraulic pump driven by an electric motor in the absence of bleed air from the jet engine, the electric motor receiving electric power from the electric generator.

For claim 23, Albero et al. further discloses An aircraft comprising: a wing; a jet engine configured to provide propulsive thrust to the aircraft; an electric generator operably coupled to the jet engine and configured to receive shaft power from the engine; a wing ice protection system configured to at least reduce the formation of ice on a portion of the wing, the wing ice protection system configured to receive electric power from the electric generator in the absence of bleed air from the jet engine; and a hydraulically actuated landing gear system configured to movably support at least a portion of the aircraft on the ground, the landing gear system including a hydraulic pump

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driven by an electric motor in the absence of bleed air from the jet engine, wherein the electric motor is configured to receive electric power from the electric generator.

For claim 24, Albero et al. further discloses the electric generator operably coupled to the jet engine is a first electric generator, and wherein the aircraft further comprises: an auxiliary power unit; and a second electric generator operably coupled to the auxiliary power unit and configured to receive shaft power from the auxiliary power unit, wherein the wing ice protection system is configured to receive electric power from the second electric generator in the absence of compressed air from the auxiliary power unit.

For claim 25, Albero et al. further discloses the wing ice protection system is an electrothermal system including at least one heating element positioned at least proximate to an interior portion of the wing, and wherein the heating element can be energized with electric power from the electric generator to warm the portion of the wing to at least reduce the formation of ice on the portion of the wing.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 9-11, 15, 26, and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albero et al. (US 6,704,625).

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For claims 9 and 37, as described above, Albero et al. discloses most of the claimed invention except for an adjustable speed motor. However, it would have obvious to one having ordinary skill in the art at the time the invention was made to have modified the motor of Albero et al. so that the motor has an adjustable speed, since it has been held that the provision of variability/adjustability, where needed, involves only routine skill in the art.

For claim 10, as described above, Albero et al. discloses most of the claimed invention except for a variable speed fuel pump. However, it would have obvious to one having ordinary skill in the art at the time the invention was made to have modified the fuel pump of Albero et al. so that the fuel pump has an variable speed, since it has been held that the provision of variability/adjustability, where needed, involves only routine skill in the art.

For claim 11, as described above, Albero et al. discloses most of the claimed invention except for variable speed fan. However, it would have obvious to one having ordinary skill in the art at the time the invention was made to have modified the fan of Albero et al. so that the fan has an variable speed, since it has been held that the provision of variability/adjustability, where needed, involves only routine skill in the art.

For claims 15 and 26, as described above, Albero et al. discloses most of the claimed invention except for an actuator for vibrating a portion of the wing to reduce the formation of ice. However, an Official Notice is taken that using actuator for vibrating a portion of the wing to reduce the formation of ice is a well known technique in the art. Therefore, it would have obvious to one having ordinary skill in the art at the time the

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invention was made to have modified the wing ice protection system of Albero et al. so as to include an actuator, in light of the Official Notice taken, in order to provide a more efficient method in removing ice and thus reduce the overall manufacturing cost.

For claim 38, Albero et al. further discloses a wing extending outwardly from the fuselage; and a wing ice protection system configured to at least reduce the formation of ice on a portion of the wing, the wing ice protection system configured to receive electric power from the electric generator.

For claim 39, Albero et al. further discloses a hydraulically actuated landing gear extendable downwardly from the aircraft; a hydraulic pump configured to provide hydraulic power to the landing gear; and an electric motor operably coupled to the hydraulic pump and configured to receive electric power from the electric generator to drive the hydraulic pump.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh T Nguyen whose telephone number is (703) 306-9082. The examiner can normally be reached on M-F (9:30 A.M to 6:00 P.M).

The examiner's supervisor, Teri Luu can be reached on (703) 305-7421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Trinh T. Nguyen
Patent Ex.
Art Unit 3644
2/1/05